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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,086	08/22/2006	Jean-Francois Hamet	1606.75694	4157
24978 7590 06/27/2008 GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606				
EXAMINER CHO, JAMES HYONCHOL				
ART UNIT		PAPER NUMBER		
2819				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/590,086

**Applicant(s)**

HAMET ET AL.

**Examiner**

James H. Cho

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-22 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 5/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Receipt is acknowledged of the Pre-Amendment filed 6/8/2008.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. (US PAT No. 6,148,221) in view of Sakai et al. (US PAT No. 4,749,888).

Regarding claims 1 and 14, Fig. 3 of Ishikawa et al. teaches a superconductive inductive component comprising: at least two terminals 21, 22, 23, 24, 25) cooperating with a stack of thin layers of alternately an electrically insulating material (31) and a superconductive material (21, 22, 23, 24, 25), but does not teach tuning means producing a resistive connection between at least two of said superconductive layers... However, Fig. 2A of Sakai et al. teaches tuning means (9) producing a resistive connection between at least two of said superconductive layers (col. 7, lines 6-22), for the purpose of providing maximum the fluxon transfer. It would have been obvious at the time of invention to provide tuning means producing a resistive connection between at least two of said superconductive layers of Sakai et al. with the superconductive inductive component of Ishikawa et al. since it would provide improved transfer of energy.

Regarding claim 2, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 1, characterized in that said stack is positioned on a superconductive track (Fig. 4 shows superconductive track in terms of equivalent circuit)..

Regarding claim 3, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 1, wherein a connection between two of said superconductive layers connected by the tuning means has more or less uniform resistance in said stack (the resistor element (resistor element 9 is fixed resistance since the size remains the same).

Regarding claim 4, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 1, wherein a connection between two of said superconductive layers connected by the tuning means has a variable resistance within said stack (9 inherently varies according to surrounding environment).

Regarding claim 5, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 1, wherein the tuning means comprise at least one substance applied to all or part of the section of said stack so as to produce a resistive connection between at least two superconductive layers (9 is applied to all stacks as shown in Fig. 2a of Sakai et al.).

Regarding claim 6, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 5, characterized in that the tuning means have resistance characteristics which vary as a function of a physical or chemical variable, termed a control variable, specific to the environment of the component (resistor element 9 is fixed resistance since the size remains the same).

Regarding claim 7, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 5, wherein the tuning means have a resistance controlled by an exposure or a variation of exposure to a light radiation (resistance of resistor element 9 varies inherently when a light is exposed since the light would produce heat which inherently increases the resistance).

Regarding claim 8, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 5, wherein the tuning means have a resistance controlled by a variation of temperature (resistance of resistor element 9 varies inherently when a high temperature is exposed since the high temperature would produce heat which inherently increases the resistance).

Regarding claim 9, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 5, wherein the tuning means have a resistance controlled by an exposure or a variation of exposure to a magnetic field (resistance of resistor element 9 varies inherently when a magnetic field is exposed).

Regarding claim 10, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 5, wherein the tuning means have a resistance controlled by an exposure or a variation of exposure to an electric field (resistance of resistor element 9 varies inherently when an electric field is exposed).

Regarding claim 12, Ishikawa et al. in view of Sakai et al. teaches the component according to claim 1, wherein the tuning means comprise means for controlling the resistance of at least one connection between two superconductive layers connected by said tuning means (resistance of resistor element 9 varies inherently according to the environment).

Regarding claims 15-19, Ishikawa et al. in view of Sakai et al. teaches the device according to claim 14, further configured for providing an optoelectronic transducer function, or said device produces at least one antenna including an inductive superconductive component, or being implemented in a medical imaging device comprising at least one antenna including a superconductive inductive component the tuning means of which enable said antenna to be tuned, or a capacitive component such as phase shift radar device. (intended use of the superconductive component : It has been held that a recitation directed to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art

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apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).).

The method claims of 20-22 are essentially same as the apparatus claims since the process would produce the apparatus as claimed as stated above and thus are similarly rejected..

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. in view of Sakai et al., further in view of Lewis et al. (US PAT No. 6,013,229).

Ishikawa et al. in view of Sakai et al teaches the component according to claim 5 where the tuning means is a resistive element, but does not teach the resistive element with metal polymer. However, Lewis et al. teaches a resistor element with metal polymer for the purpose of application in the acoustic wave resonator (col. 1, lines 32-36). It would have been obvious at the time of invention to provide tuning means producing a resistive connection between at least two of said superconductive layers with the resistive element comprising with metal polymer since it would provide the same resistive function.

***Allowable Subject Matter***

Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: one of ordinary skill in the art would not have been motivated to modify the teaching of Ishikawa et al., Sakai et al. and/or Lewis et al. to further includes, among other things, the specific of the control means including an electric or electronic circuit for controlling the electrical resistivity or resistance between at least two superconductive layers connected by the tuning device (claim 13), and the specific of

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wikborg et al. (US PAT No. 6,185,441) discloses an arrangement for coupling electro magnetic waves.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Cho whose telephone number is 571-272-1802.

The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you



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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/James H. Cho/  
Primary Examiner  
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